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EUROPEAN PATENT APPLICATION

21 Application number: 87400864.2

51 Int. Cl.³: G 01 N 23/203

22 Date of filing: 15.04.87

30 Priority: 22.05.86 US 865776

43 Date of publication of application:
25.11.87 Bulletin 87/48

68 Date of deferred publication of search report: 08.11.89

64 Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

71 Applicant: TROXLER ELECTRONIC LABORATORIES, INC.
Post Office Box 12057 Cornwallis Road
Research Triangle Park North Carolina 27709(US)

72 Inventor: Troxler, William F., Sr.
P.O. Box 12057 Research Triangle Park
North Carolina 27709(US)

74 Representative: Orès, Bernard et al,
Cabinet ORES 6, Avenue de Messine
F-75008 Paris(FR)

54 Nuclear radiation apparatus and method for dynamically measuring density of test materials during compaction.

57 The present invention provides an apparatus and method for dynamically measuring the density of soil, asphaltic material and the like during the compaction of the material. The gauge (20) includes a nuclear radiation source (31) and a nuclear radiation detector means (32) which are mounted in spaced relation from the surface of the test material to form an air gap therebetween. The gauge also includes means for measuring the size of the air gap between the test material and the source and detector system, and means to compensate for the effect of the size of the air gap to thereby obtain the density of the test material.

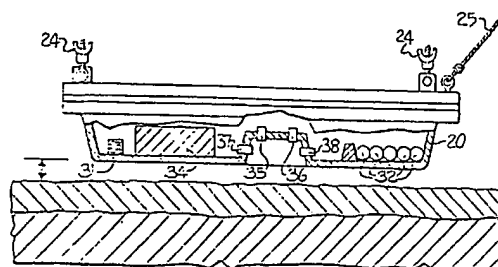


Fig-5



European Patent
Office

EUROPEAN SEARCH REPORT

0246937

Application Number

EP 87 40 0864

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
Y	US-A-3 341 706 (SWIFT) * Column 2, lines 16-52; column 2, line 68 - column 3, line 38; claims 1-3,6 *	1,3-5,8 9,14, 15	G 01 N 23/203 E 01 C 19/28
Y	INTERNATIONAL CONSTRUCTION, vol. 22, no. 3, March 1983, page 140, Havwards Heath, Sussex, GB; "New products" * Page 140, column 3, lines 1-34; figure *	1,3-5,8 9,14, 15	
A	CIVIL ENGINEERING, Mai 1983, pages 40-43, London, GB; "Product profile" * Page 41, middle column, line 12 - page 43, left-hand column, line 14; page 43, top figure *	1-3,8, 10,11, 14	
D,A	EP-A-0 108 845 (SEAMAN) * Abstract; claims 1,9,10; figure 1 *	1,3,8, 10,11, 14	
A	INTERNATIONAL CONSTRUCTION, vol. 22, no. 8, August 1983, pages 59,61, Havwards Heath, Sussex, GB; L. FORSSBLAD: "New trends in compaction" * Page 61, middle column, line 15 - page 61, right-hand column, line 5 *	1,8,10	TECHNICAL FIELDS SEARCHED (Int. Cl.4) G 01 N E 01 C
A	CIVIL ENGINEERING, January 1984, pages 42-44, London, GB; J.D. LATHAM: "Aids towards better compaction" * Page 42, right-hand column, lines 1-27 *	1,8,10	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07-08-1989	Examiner THOMAS R.M.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			